



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,163	11/17/2003	Toshio Shiobara	245537US0	9456
22850	7590	02/27/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			FEELY, MICHAEL J	
		ART UNIT	PAPER NUMBER	
		1712		

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/713,163	SHIOBARA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael J. Feely	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 November 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1103</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

**DETAILED ACTION**

***Pending Claims***

Claims 1-3 are pending.

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (Pub. No.: US 2001/0031828) or Honda et al. (US Pat. No. 6,645,632) in view of Oka et al. (US Pat. No. 6,268,033).

Regarding claim 1, Honda et al. disclose a wafer dicing/die bonding sheet comprising a backing member, and an adhesive layer formed thereon; said adhesive layer being made of an adhesive composition comprising a phenolic hydroxyl radical-bearing polyimide resin, and epoxy resin, and an epoxy curing agent , the ratio of the total weight of the epoxy resin curing agent to the weight of the polyimide resin being from 0.1:1 to 3:1 (Pat: claims 4 & 5; Pub: claims 5 & 6).

Honda et al. disclose that their film-forming adhesive is applied to substrate, such as silicone, Teflon, or PET, to form a tape (*see claims and paragraph 0049*); however, they do not explicitly disclose the presence of this substrate in concert with a *protective member*.

Oka et al. disclose a similar film-forming adhesive (Abstract) coated on a substrate, such as PET (column 10, lines 21-29). Furthermore, they disclose, “In the above mentioned first adhesive tape for electronic parts, it is possible to provide a releasing film having a thickness of 1-200  $\mu\text{m}$  as a protective film on the adhesive layer,” (column 10, lines 29-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a protective member, as taught by Oka et al. to the tape of Honda et al. because Oka et al. disclose a similar tape for electronic parts, wherein a releasing protective film is optionally provided, resulting in a protected adhesive up until the time of applying said tape.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al. (Pub. No.: US 2001/0031828)/Honda et al. (US Pat. No. 6,645,632) and Oka et al. (US Pat. No. 6,268,033) in view of Inoue et al. (US Pat. No. 5,728,473).

Regarding claim 3, the combined teachings of Honda et al. and Oka et al. are as set forth above and incorporated herein. They fail to disclose the use of a silane-coupling agent in the adhesive layer.

Inoue et al. disclose an adhesive composition comprising a polyimide resin and an epoxy resin (Abstract). Furthermore, they include a silane-coupling agent having a glycidyl group, resulting in enhanced adhesion properties of the adhesive composition (Abstract; column 6, lines 21-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a silane coupling agent, as taught by Inoue et al., in the adhesive layer set forth in the combined teachings of Honda et al. and Oka et al. because Inoue et al. disclose a similar polyimide/epoxy adhesive including a silane-coupling agent, resulting in enhanced adhesion properties of the adhesive composition.

***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claim 1 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4 and 5 of Honda et al. (US Pat. No. 6,645,632) in view of Oka et al. (US Pat. No. 6,268,033).

Regarding claim 1, Honda et al. disclose a wafer dicing/die bonding sheet comprising a backing member, and an adhesive layer formed thereon; said adhesive layer being made of an adhesive composition comprising a phenolic hydroxyl radical-bearing polyimide resin, and epoxy resin, and an epoxy curing agent , the ratio of the total weight of the epoxy resin curing agent to the weight of the polyimide resin being from 0.1:1 to 3:1 (claims 4 & 5).

Honda et al. disclose that their film-forming adhesive is applied to substrate, such as silicone, Teflon, or PET, to form a tape (*see claims and paragraph 0049*); however, they do not explicitly disclose the presence of this substrate in concert with a *protective member*.

Oka et al. disclose a similar film-forming adhesive (Abstract) coated on a substrate, such as PET (column 10, lines 21-29). Furthermore, they disclose, “In the above mentioned first adhesive tape for electronic parts, it is possible to provide a releasing film having a thickness of 1-200  $\mu\text{m}$  as a protective film on the adhesive layer,” (column 10, lines 29-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a protective member, as taught by Oka et al. to the tape of Honda et al. because Oka et al. disclose a similar tape for electronic parts, wherein a releasing protective film is optionally provided, resulting in a protected adhesive up until the time of applying said tape.

7. Claim 3 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4 and 5 of Honda et al. (US Pat. No. 6,645,632) in view of Oka et al. (US Pat. No. 6,268,033) and Inoue et al. (US Pat. No. 5,728,473).

Regarding claim 3, the combined teachings of Honda et al. and Oka et al. are as set forth above and incorporated herein. They fail to disclose the use of a silane-coupling agent in the adhesive layer.

Inoue et al. disclose an adhesive composition comprising a polyimide resin and an epoxy resin (Abstract). Furthermore, they include a silane-coupling agent having a glycidyl group, resulting in enhanced adhesion properties of the adhesive composition (Abstract; column 6, lines 21-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a silane coupling agent, as taught by Inoue et al., in the adhesive layer set forth in the combined teachings of Honda et al. and Oka et al. because Inoue et al. disclose a similar polyimide/epoxy adhesive including a silane-coupling agent, resulting in enhanced adhesion properties of the adhesive composition.

8. Claims 1 and 2 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3-6 and 9 of Ichiroku et al. (US Pat. No. 6,949,619) in view of Oka et al. (US Pat. No. 6,268,033).

Regarding claims 1 and 2, Ichiroku et al. disclose: (1) a wafer dicing/die bonding sheet comprising a backing member, and an adhesive layer formed thereon; said adhesive layer being made of an adhesive composition comprising a phenolic hydroxyl radical-bearing polyimide resin, and epoxy resin, and an epoxy curing agent, the ratio of the total weight of the epoxy resin curing agent to the weight of the polyimide resin being from 0.1:1 to 3:1 (claims 3-6 and 9); (2) wherein said adhesive composition is a heat resistant polyimide resin composition comprising a polyimide resin having phenolic hydroxyl radical in or at the ends of the polyimide skeleton, comprising recurring units of the structural formula (1) or (2) *see claims for structures* and prepared using diamine or monoamine bearing an aromatic ring having an amino radical and

Art Unit: 1712

another aromatic ring having a phenolic hydroxyl radical, an epoxy resin having at least two glycidyl radicals, and an epoxy curing agent (claims 3-6 and 9).

Ichiroku et al. disclose that their film-forming adhesive is applied to substrate; however, they do not explicitly disclose the presence of this substrate in concert with a protective *member*.

Oka et al. disclose a similar film-forming adhesive (Abstract) coated on a substrate, such as PET (column 10, lines 21-29). Furthermore, they disclose, "In the above mentioned first adhesive tape for electronic parts, it is possible to provide a releasing film having a thickness of 1-200 µm as a protective film on the adhesive layer," (column 10, lines 29-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a protective member, as taught by Oka et al. to the tape of Ichiroku et al. because Oka et al. disclose a similar tape for electronic parts, wherein a releasing protective film is optionally provided, resulting in a protected adhesive up until the time of applying said tape.

9. Claim 3 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3-6 and 9 of Ichiroku et al. (US Pat. No. 6,949,619) in view of Oka et al. (US Pat. No. 6,268,033) and Inoue et al. (US Pat. No. 5,728,473).

Regarding claim 3, the combined teachings of Ichiroku et al. and Oka et al. are as set forth above and incorporated herein. They fail to disclose the use of a silane-coupling agent in the adhesive layer.

Inoue et al. disclose an adhesive composition comprising a polyimide resin and an epoxy resin (Abstract). Furthermore, they include a silane-coupling agent having a glycidyl group, resulting in enhanced adhesion properties of the adhesive composition (Abstract; column 6, lines 21-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a silane coupling agent, as taught by Inoue et al., in the adhesive layer set forth in the combined teachings of Ichiroku et al. and Oka et al. because Inoue et al. disclose a similar polyimide/epoxy adhesive including a silane-coupling agent, resulting in enhanced adhesion properties of the adhesive composition.

*Allowable Subject Matter*

10. Claim 2 would be allowable if rewritten to overcome the ODP rejection(s) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims; or with a timely filed terminal disclaimer.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael J. Feely  
Primary Examiner  
Art Unit 1712

February 20, 2006

**MICHAEL FEELY  
PRIMARY EXAMINER**